Volume 7, Issue 10 Home Appliances Newsletter October, 2012

Samsung Electronics America

Samsung Tech Talk

Your source for service information

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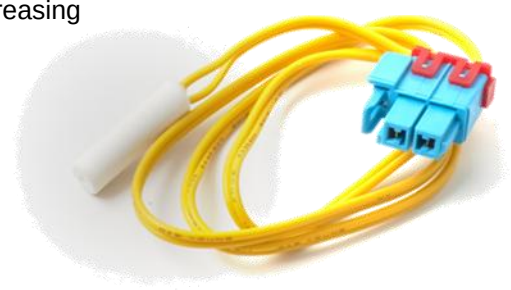
Cool Info About Refrigerator Temperature Sensors

Juan Morales

Regional Technical Trainer

- A thermistor is a type of resistor whose resistance varies with temperature.
- Samsung refrigerator temperature sensors are NTC (Negative Temperature Coefficient) type thermistors.
- Samsung refrigerator temperature sensors exhibit a decrease in electrical resistance with increasing temperature.
- Depending on the temperature the sensor is exposed to, it will communicate to the Main PCB that the compartment is either cool or warm.
- If the compartment warms up, the resistance of the sensor will decrease, along with the voltage across it.
- This decrease in voltage will communicate to the Main PCB that cooling is required.



OPEN > 100kΩ

SHORT < 2kΩ

- Depending on how warm the compartment is, the fans, the compressor, or both will be activated to cool it down.
- Samsung refrigerators use this process to accurately maintain temperature within the compartments.
- If a sensor fails (open/short), or simply deviates from its tolerance, the temperature in the compartment will not be maintained properly.

Get Certified on Samsung Icemakers!

A new Samsung Icemaker Certification Course has been uploaded to Plus One.

Covering pre-2012 models, this course gives you the knowledge you need to diagnose problems with Samsung Ice Makers correctly and reduce REDO.

Topics covered include:

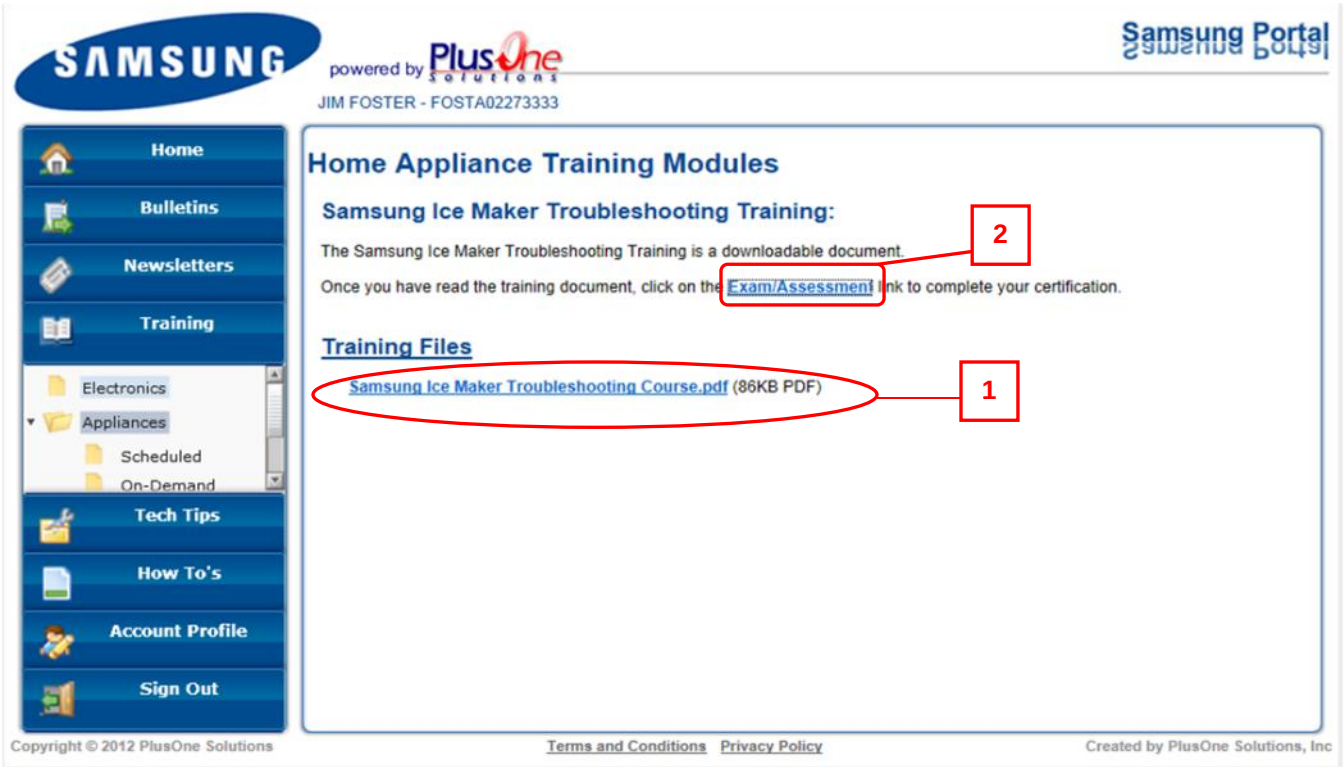
- The temperatures required for a refrigerator's ice making system to work properly
- The water pressure needed
- Voltage and resistance checks for both styles of Samsung Ice Makers (Flex Tray and Heated Mold)
- Normal ice maker operation
- Expected ice production
- The external factors that can affect ice making

To obtain certification:

1. View the course.
2. Take the Exam.
    a. A passing score of 70% gets you certified

What to do next:

Log into Plus One and start today.



Freezer Frost in French Door Refrigerators

Wes Sirois
Assistant Manager, HA Product Support

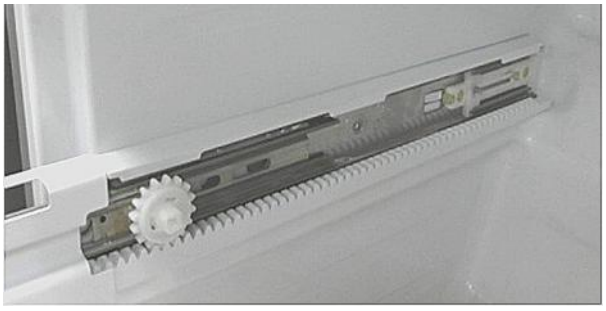
Models:

RF197AB	RF266AZ	RF26VAD	RFG296HD	RF197AC	RF267AA	RF26XAE	RFG297AA
RF217AB	RF267AB	RF26XAZ	RFG297AB	RF217AC	RF267AC	RF4267HA	RFG297HD
RF263AE	RF267AD	RF4287AA	RFG298AA	RF265AA	RF267AE	RF4287HA	RFG298HD
RF265AB	RF267AF	RF4289HA	RFG299AA	RF265AD	RF267AZ	RFG237AA	RFG299AB
RF266AA	RF268AB	RFG238AA	RFG29PHD	RF266AB	RF268AC	RFG293HA	RFG29THD
RF266AC	RF26VAB	RFG295AA	RF266AE	RF26VAC	RFG295AB		

Problem: Frost in freezer. Freezer door not closing.

Symptoms:

- Frost on food in freezer
- Frost on freezer rails
- Gap around freezer gasket



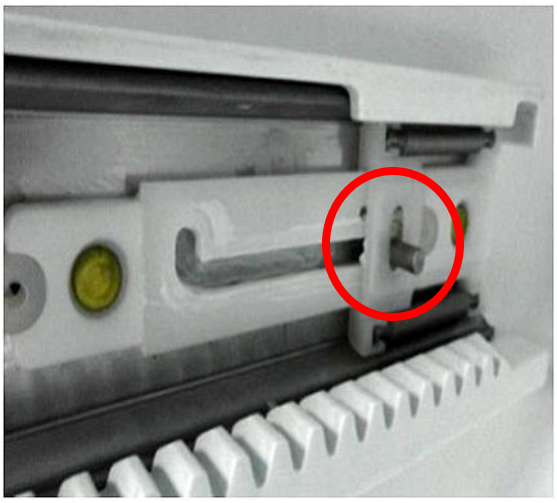
Freezer Rail

Cause #1:

- Pin in the freezer rail is out of position.
- This can happen during cleaning.
- If the pin is out of position, the auto-close spring will not work and the drawer will not close completely.

Solution #1:

- Open the drawer fully and push it closed. The pin should return to the correct position.
- If the pin does not return to the correct position, pull it into position. Demonstrate this to the customer.



Pin in wrong position

Pin in correct position

Freezer Frost in French Door Refrigerators

continued

Cause #2:

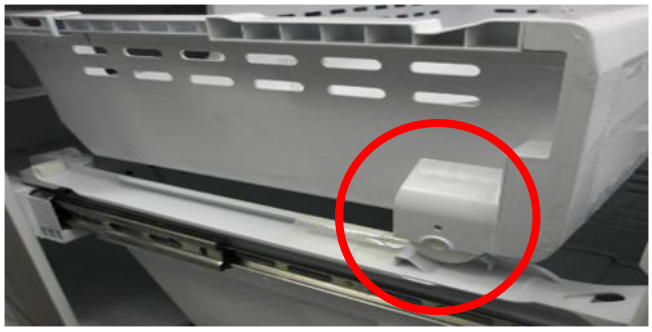
- Improper alignment of the freezer drawer baskets and/or Pizza Guard. The drawer will not close flush.

Solution #2:

- Make sure the freezer baskets and Pizza Guard are positioned correctly.

Lower basket, tab out of position

Basket installed correctly



Upper basket roller past the stop

Upper basket installed correctly

Pizza guard stud out of place

Pizza Guard installed correctly

Freezer Frost in French Door Refrigerators

continued

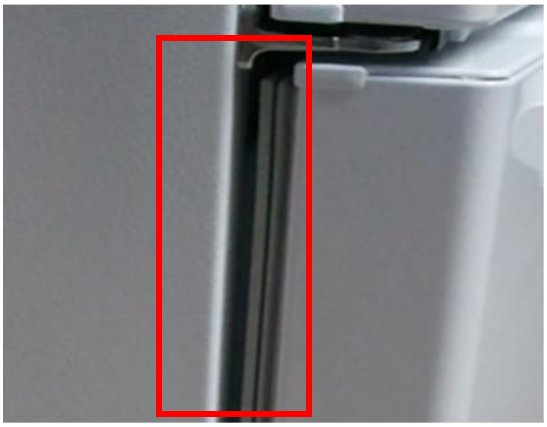
Cause #3:

- Improper loading of the freezer by the customer, causing the drawer to remain partially open.

Solution #3:

- Remove obstructions, clean off any frost, and then close the drawer.
- Advise the customer about proper loading. This is not a warranty issue.

A bottle caught between the Pizza Guard and top basket



Gap between gasket and cabinet

- All new production will include a label advising the customer on proper loading techniques.
- The label will also inform the customer that he/she may have to pay for service if the cause of the problem is improper loading.

Other causes:

- The Timing Rod may be out of alignment. The timing rod is the bar located between the left and right side tracks (behind the lower basket). A gear is located at each end of the rod. These gears must be aligned so that the slide rails will open and close properly. To align the gears, open the drawer fully and close it forcefully. This should align the gears.
- The customer may be opening the drawer from the left or right end of the handle. Depending on the amount of food in the freezer, the drawer could rack and not seal completely. Advise the customer to open and close the drawer using the middle of the handle for best performance.

Testing Samsung Refrigerator Fans

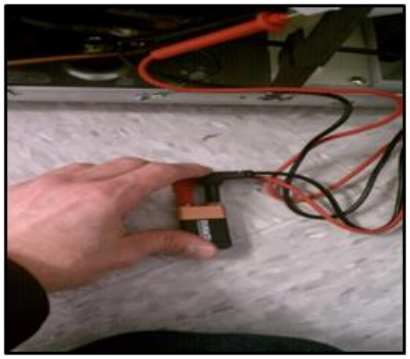
Nicholas Webert

Regional Technical Trainer

Last year, we taught techs how easy it was to test the dc voltage fans in Samsung refrigerators. Knowing that Samsung uses 3 lines for each fan can make testing even easier. Neutral (pin1 or circuit ground) and voltage (pin 3 or voltage) are supplied to make the fan turn. While the fan spins, it creates a low 2 – 2.5 dc voltage (FG) that is sent back to the board. If the board does not receive this FG voltage, it stops supplying power to turn the fan.

CN76 F, R, C Fans & Door Sws
2-1 Ice Room Fan (Blk-Gry)**7-11vdc**
3-1 F Fan (Yel-Gry) 7-11vdc
4-1 R Fan (Org-Gry) **7-11vdc**
5-1 C Fan (S/Blu-Gry) **7-11vdc**
6 Ice Room Fan FG(Pnk)
7 F Fan FG(Brn) 2.5vdc
8 R Fan FG(Red)
9 C Fan FG(Blu)
11– Fz Door Sw
12– FF Door Sw
13– Mid Drawer door Sw

Once you understand how the fan operates, you can take it one step further. If you supply your own power to pins 3 and 1 by connecting a 9 volt battery to them, you can make the fan turn. Then, by checking for the FG voltage returning to the board, you can confirm the fan is good without even viewing it.



You can also do the same test without using a battery. Simply put a jumper wire between a currently turning fan and the fan you're testing. For example, with the C Fan turning, jump pin 5 to pin 3, and then check for FG power to confirm.

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T-SHOOTING WI-FI REFRIGERATOR CONNECTIVITY ISSUES

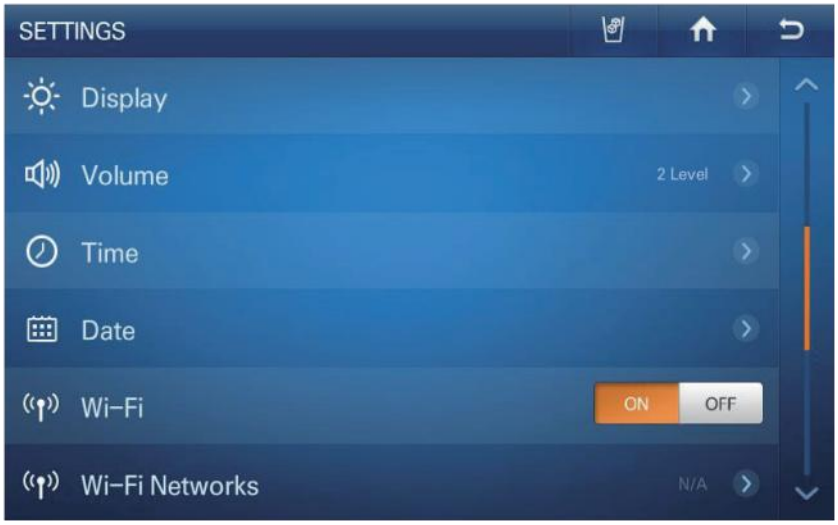
Steve Polzin

HA Technical Specialist

Samsung Wi-Fi refrigerators provide easy access to a series of user friendly, web based applications. Consumers can check the weather, leave notes for their kids and keep the family on schedule with the Google calendar. Other useful applications allow quick, easy access to favorite recipes, pictures, music and yes, they also give customers the ability to Tweet from their refrigerator.

From time to time, you are likely to run across connectivity issues in which the customer cannot access the web or perhaps cannot maintain a connection and has to regularly reset the control to restore the connection. In this article, we will focus on Internet access, how to evaluate connection issues, and what you need to know to educate the consumer and prevent repeat service requests.

To begin troubleshooting, click the Settings icon located in the bottom right hand corner of the main menu. Then, scroll down and make sure Wi-Fi is turned on, and then select the customer's Wi-Fi network. If the network is not listed, it indicates that either the Wi-Fi network is hidden or there is a signal problem with the home Wi-Fi network.



An easy way to confirm Internet access is to launch the Weather Bug or AP News App from the main menu. If connection was unsuccessful, check the signal strength icon in the Wi-Fi Network window. If the signal strength is low, the problem is with the home Network, not the refrigerator. A more thorough way to check the Network connection is by clicking the IP Address icon located in the Wi-Fi Network window, and then pressing the test button in the bottom right hand corner. If the automatic settings are correct, a message will appear indicating that the configuration is correct. A key factor to keep in mind is that if a network appears in the Wi-Fi network window, the refrigerator has established communication with that network and the connection issue is not likely to be the caused by the refrigerator.

We strongly recommend you work through the process as described above because the next step is to explain to the customer that the issue is not with the refrigerator and lies within their home Wi-Fi network. Inevitably, some customers rightfully will be quick to point out that other wireless devices work in the house and they have never experienced any

T-SHOOTING WI-FI REFRIGERATOR CONNECTIVITY ISSUES

continued

problems before. That being said, a possible solution might be available if you or the customer has a smart phone with a hot spot. You should be able to connect through that device as further proof the refrigerator is working properly.

A basic understanding of a home Wi-Fi network can go a long way when it comes to educating the customer and bringing a successful resolution to a connectivity issue. One of the biggest obstacles to setting up a home Wi-Fi network is the lack of signal strength in some areas throughout the house, commonly referred to as dead zones. Wi-Fi signals are transmitted over radio waves, and are subject to the same reception problems found with radio and television signals. Dead zones can be caused by a multitude of factors such as walls, distance between the device and the router, and even interference from appliances, cordless phones, and other Wi-Fi routers in the area. The Samsung refrigerator Wi-Fi feature is located in the dispenser door panel which is surrounded by metal and foam insulation, creating another obstacle to a reliable connection. Once you have determined that a connection cannot be made or maintained because of a low or absent signal, how do you approach the customer? It is “not” your responsibility to correct the problem. However, we recommend that you provide a thorough explanation of why the connection issue is with the home Wi-Fi network and not the refrigerator.

Samsung does not endorse nor recommend any device or method to extend or strengthen a Wi-Fi signal, however, there are options available that do just that. We do recommend the customer contact their Internet service provider or a local retailer that specializes in computers and/or Wi-Fi to get a qualified recommendation. The customer should inquire about a Wi-Fi range extender. The range extender grabs a network connection wirelessly from an existing router and extends and strengthens the signal. It is a simple, affordable option for low signal dead zone issues.

PLEASE SEND US YOUR COMMENTS!

Something you’d like to see in the Samsung Tech Talk Newsletter? If there a topic/issue we haven’t covered that you’d like us to write about, **LET US KNOW!**

Please send your comments to:

training@sea.samsung.com

GSPN Updates

Jeff Brutman
Senior Staff, Publications

We encourage you to use our GSPN site to find the latest service bulletins to aid you with your repairs:

http://gspn3.samsungcsportal.com/

HA Service Bulletins uploaded to GSPN in September, 2012:

Bulletin Number	Subject	Applicable Models
ASC20120905001	The Auto Pullout Feature for the Upper Freezer Drawer does not work correctly. The stops on the lower drawer are missing, so the upper tray will not roll out automatically	RF260BEAEBC/AA, RF260BEAESP/AA RF260BEAESR/AA, RF260BEAEWW/AA RF261BEAEBC/AA ,RF261BEAESP/AA RF261BEAESR/AA, RF261BEAEWW/AA RF263BEAEBC/AA, RF263BEAESP/AA RF263BEAESR/AA, RF263BEAEWW/AA RF263TEAEBC/AA, RF263TEAESP/AA RF263TEAESR/AA, RF263TEAEWW/AA
ASC20120907001	ASSY-PARTITION SWITCH Partition Switch improvement – New Part Number	FE-710DRS
ASC20120328002	Microwave Oven Cavity Touchup Paint Service Bulletin has been updated.	All Models

To access service bulletins on GSPN, first visit http://gspn3.samsungcsportal.com/ Login using your **User ID** and **Password**. Click on “Knowledge” at the top, then “Product Info” in the left column. The Product Information menu will appear. Click on “Service Bulletin (Local) to bring up the Service Bulletins (Local) screen. To search for a bulletin, enter the bulletin number in the Subject field on the left side of the screen, and then click the Search button on the far right. If for some reason the bulletin does not appear, it can still be searched using the “Category” drop-down menus, the Subject field, or the Model field. You can also try using the Search field at the top of the screen.

2012 RTC Home Appliance Training

Samsung HA Training 2012

For 2012, Samsung introduces a new way of training. To help you with your demanding schedule, updated training on new 2012 products will be two days long. To be eligible to attend the two day training session, techs must have attended and successfully completed 2011 HA product training in one of our training centers.

Samsung will still hold 3 day Basic classes quarterly. These classes are intended for new techs who have never attended a Samsung training, or for techs who need extra help to improve their skills.

Attend the in-depth, hands-on 2 day Update or 3 day Basic training at one of our RTCs!

You can reserve your seat in training by emailing training@sea.samsung.com.

Additionally, Home Appliance training is available on-demand 24/7 at https://my.plus1solutions.net/clientPortals/samsung/

Training Schedule

Date	City	Comments
October 2-3, 2012	Houston, TX	ME/ASC 2012 2 day Update Training
October 9-11	Little Ferry, NJ	ME/ASC 2012 3 day Basic Training
October 16-17, 2012	Dallas, TX	ME/ASC 2012 2 day Update Training
October 16-18, 2012	Bensenville, IL	ME/ASC 2012 3 day Basic Training
November 6-7, 2012	Little Ferry, NJ	ME/ASC 2012 2 day Update Training (Session 1)
November 8-9, 2012	Little Ferry, NJ	ME/ASC 2012 2 day Update Training (Session 2)

2012 RTC Home Appliance Training

continued

Date	City	Comments
November 13-14, 2012	Bensenville, IL	ME/ASC 2012 2 day Update Training (Session 1)
November 15-16, 2012	Bensenville, IL	ME/ASC 2012 2 day Update Training (Session 2)

Samsung Electronics America
85 Challenger Road
Ridgefield Park, NJ 07660

Phone: 201-229-4251

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